

Atmospheric Profiles (MOD07_L2)

The Atmospheric Profiles retrieval code (PGE03) is now updated with changes to the training data used to create the regression coefficients, including more profiles and better characterization of the surface. Training data and retrievals are now also partitioned into separate land and ocean classes, and new BT zones are used. In addition, destriping is performed on the L1B data before performing the retrievals, and updated radiance bias values are used.

These changes reduced the moist bias for dry cases and improved moisture retrievals in the tropics. We reduced the along-track noise and across-track striping. The polar ozone was significantly improved and prior overestimates reduced. Total predictable water retrievals now compare more favorably to surface measurements at the SGP CART site, with RMS errors in TPW reduced to around 3 mm. Further details and examples of improvements can be found in slides at:

http://modis.gsfc.nasa.gov/sci_team/meetings/200407/presentations/atmos/Seemann.pdf